

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method for producing a polymer-particle composite comprising:

forming a layer containing a polymeric material, wherein the layer has a thickness between approximately [that is at least equal to] $.04\ \mu\text{m}$ and $.6\mu\text{m}$, and

packing particles in the polymeric material by contacting the layer with a particle suspension, which contains a dispersion of the particles in a solvent capable of swelling the polymeric material.

2. (Previously Presented) A method for producing a polymer-particle composite according to Claim 1 wherein the layer is formed on a substrate and is brought into contact with the particle suspension.

3. (Previously Presented) A method for producing a polymer-particle composite according to Claim 2 wherein the layer is formed as a pattern on the substrate.

4. (Original) A method for producing a polymer-particle composite according to Claim 2 wherein the substrate is selected from a group consisting of a metal, a semiconductor, an inorganic material, a film and an unwoven fabric.

5. (Previously Presented) A method for producing a polymer-particle composite according to Claim 1 wherein the step of packing particles in the polymeric material comprises immersing the layer in the particle suspension or a step of applying the particle suspension onto the layer.

6. (Previously Presented) A method for producing a polymer-particle composite according to Claim 1 wherein the polymeric material is a polyelectrolyte.

7. (Previously Presented) A method for producing a polymer-particle composite according to Claim 6 wherein the polyelectrolyte is a polyelectrolyte having a charge opposite to the charge possessed by the particles.

8. (Original) A method for producing a polymer-particle composite according to Claim 6 wherein the polyelectrolyte is a water-soluble polyelectrolyte.

9. (Previously Presented) A method for producing a polymer-particle composite according to Claim 1 wherein a mean particle size of the particles is 1 nm to 100 μm .

10. (Previously Presented) A method for producing a polymer-particle composite according to Claim 9 wherein the particles are selected from a group consisting of an oxide, a metal, a semiconductor and a substance containing carbon as a structural element, or a mixture thereof.

11. (Previously Presented) A method for producing a polymer-particle composite according to Claim 1 wherein the concentration of the particles in the particle suspension is 1 % by volume to 65 % by weight.

12. (Original) A method for producing a polymer-particle composite according to Claim 1 wherein the solvent capable of swelling the polymeric material is a solvent having a dielectric constant of 2 or more or a mixture thereof.

13. (Original) A method for producing a polymer-particle composite according to Claim 12 wherein the solvent capable of swelling the polymeric material is a solvent containing water.

14. (Withdrawn) A polymer-particle composite produced by a method for producing a polymer-particle composite according to Claim 1.

15. (Withdrawn) A polymer-particle composite comprising a particle packed uniformly in a polymeric material and having a self-standing ability, wherein a mean particle size of the particle is 1 μm or less.

16. (Withdrawn) A polymer-particle composite according to Claim 15 wherein the polymeric material is polyelectrolytes having a charge opposite to the charge possessed by the particle.

17. (Withdrawn) A polymer-particle composite according to Claim 15 wherein the particle is present in an amount of 1 % by volume or more.

18. (Withdrawn) A polymer-particle composite according to Claim 15 wherein the particle content varies continuously over the range from one side to the other.

19. (Withdrawn) A colloidal crystal comprising a polymer-particle composite according to Claim 14.

20. (Withdrawn) A sintered particle produced by sintering a polymer-particle composite according to Claim 14.

21. (Previously Presented) A method for producing a porous material comprising:
forming a layer containing a polymeric material,
forming a polymer-particle composite by packing particles in the polymeric material by contacting the layer with a particle suspension, which contains a dispersion of the particles in a solvent capable of swelling the polymeric material, wherein the particles are capable of decomposition by means of a heat treatment, a chemical treatment, or by,
filling a material into a pore between the particles in the polymer-particle composite, and
decomposing the particles in the polymer-particle composite by means of a heat treatment, a chemical treatment, by extraction-.

22. (Original) A method for producing a porous material according to Claim 21 wherein the step of filling a certain material into a pore between the particles in the polymer-particle composite is a step of filling a metal into a pore between the particles by means of an electrolytic plating or an electroless plating.

23. (Previously Presented) A method for producing a polymer-particle composite according to Claim 1, wherein a degree of the swelling of the polymeric material is within the range from a degree giving a complete dissolution in the solvent to a degree giving the swelling to a volume twice the initial volume of the polymeric material.